

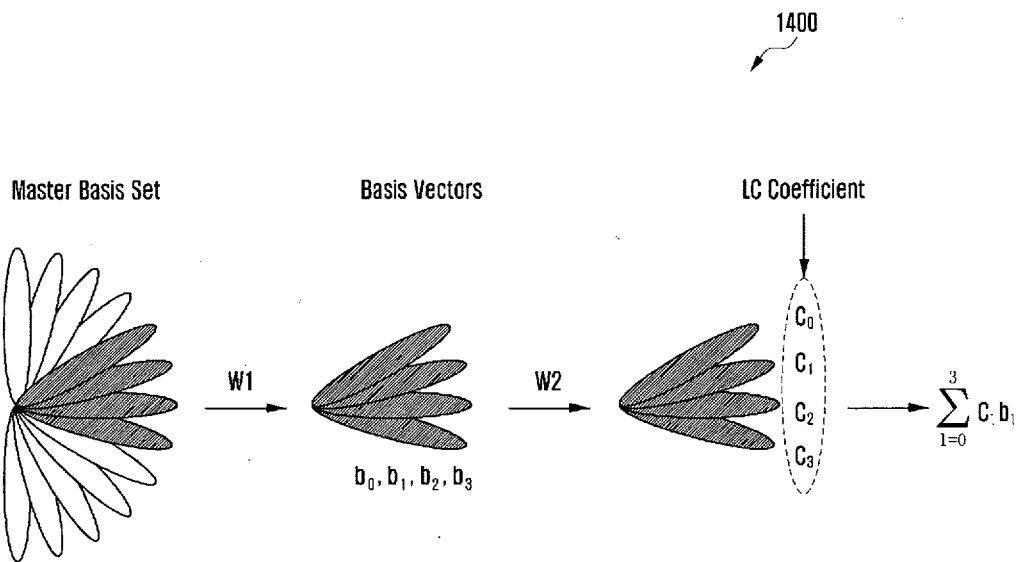


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(54) Title: METHOD AND APPARATUS FOR EXPLICIT CSI REPORTING IN ADVANCED WIRELESS COMMUNICATION SYSTEMS

[Figure 14]



(57) Abstract: The present disclosure relates to a communication method and system for converging a 5th-Generation (5G) communication system for supporting higher data rates beyond a 4th-Generation (4G) system with a technology for Internet of Things (IoT). The present disclosure may be applied to intelligent services based on the 5G communication technology and the IoT-related technology, such as smart home, smart building, smart city, smart car, connected car, health care, digital education, smart retail, security and safety services. A method for a channel state information (CSI) feedback. The method comprises receiving CSI feedback configuration information for the CSI feedback including a spatial channel information indicator based on a linear combination (LC) codebook, wherein the spatial channel information comprises at least one of a downlink channel matrix, a covariance matrix of the downlink channel matrix, or at least one eigenvector of the covariance matrix of the downlink channel matrix; deriving the spatial channel information indicator using the LC codebook that indicates a weighted

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MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,
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SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR,
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linear combination of a plurality of basis vectors or a plurality of basis matrices as a representation of at least one of a downlink channel matrix, a covariance matrix of the downlink channel matrix, or at least one eigenvector of the covariance matrix of the downlink channel matrix; and transmitting over an uplink channel, the CSI feedback including the spatial channel information indicator.

A. CLASSIFICATION OF SUBJECT MATTER**H04B 7/06(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
H04B 7/06; H04B 17/00; H04W 72/04Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility modelsElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & keywords: CSI feedback, spatial channel information indicator, linear combination (LC) codebook, downlink channel matrix, covariance matrix, eigenvector, weight, basis vector, first PMI, second PMI**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 2015-0049829 A1 (MOTOROLA MOBILITY LLC) 19 February 2015 See paragraphs [0047]-[0085]; claims 1, 12-17; and figures 5-7.	1, 6, 11 2-5, 7-10, 12-15
Y A	SAMSUNG, 'Linear combination codebook and CSI reporting', R1-162693, 3GPP TSG RAN WG1 Meeting #84bis, Busan, Korea, 1 April 2016 See sections 2, 3; and figure 1.	1, 6, 11
A	SAMSUNG, 'Hybrid PMI codebook and CSI reporting', R1-162691, 3GPP TSG RAN WG1 Meeting #84bis, Busan, Korea, 1 April 2016 See section 4.	1-15
A	US 2014-0334409 A1 (LG ELECTRONICS INC.) 13 November 2014 See paragraphs [0056]-[0078]; and figures 2, 3.	1-15
A	US 2012-0178374 A1 (YIFEI YUAN et al.) 12 July 2012 See paragraphs [0021]-[0030]; claim 1; and figures 2, 3.	1-15

 Further documents are listed in the continuation of Box C. See patent family annex.

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"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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